Parts Washing Cost Worksheet
Vehicle and Maintenance Repair Series

Complete this worksheet to calculate the costs of replacing solvent cleaning units with one or more types of aqueous units.

Start here by determining your current costs for solvent cleaning.

	Solvent cleaning (leased units with servicing)	**Your Facility**
A	Number of units leased	
B	Current cost per service visit per unit	
C	Number of times unit serviced per year	
D	Total annual solvent service cost (AxBxC)	
E	Loaded hourly labor rate of shop worker	
F	Total number of cleaning labor hours per week	
G	Total labor costs (ExFx52)	
H	Total annual cost for solvent cleaning (D+G)	

If you want to implement one or more microbial sink-top units, continue below. If not, skip to the next section.

	Conversion to aqueous microbial sink-top cleaning (units purchased)	**Your Facility**
I	Number of microbial sink-top units to be purchased	
J	Purchase price plus installation costs per unit	
K	Total capital cost of sink-top units (IxJ)	
L	Cost per gallon of aqueous cleaner	
M	Estimated aqueous cleaner use per unit year in gallons	
N	Aqueous cleaner purchase cost per unit per year (LxM)	
O	Cost per replacement filter	
P	Number of replacement filters per unit per year	
Q	Total cost for replacement filters per unit (OxP)	
R	Total number of cleaning labor hours per week	
S	Total annual labor cost (ExRx52)	
T	Total sink-top unit operation and maintenance (O&M) cost [(N+Q)xI]+S	

If you want to implement one or more aqueous spray cabinets, continue below. If not, skip to the next table.

	Conversion to Spray Cabinet Cleaning (units purchased)	**Your Facility**
U	Number of spray cabinets to be purchased	
V	Purchase price plus installation cost per spray cabinet	
W	Total capital cost of spray cabinets =UxV	
X	Cost per gallon of aqueous cleaner	
Y	Estimated aqueous cleaner use per unit per year in gallons	
Z	Aqueous cleaner purchase cost per unit per year =XxY	
AA	Disposal cost per gallon of spent solution (including sludge)	
BB	Gallons of solution per spray cabinet	
CC	Number of solution changes per unit per year	
DD	Total cost for spent solution disposal per unit=AAxBBxCC	
EE	Number of cleaning labor hours per week (typically reduced up to 80%)	
FF	Total annual labor cost=ExEEx52	
GG	Total spray cabinet O&M cost =[(Z+DD)xU]+FF	

Summarize your calculations below to determine your potential cost savings and payback period.

	Results	**Your Facility**
HH	Total annual capital cost of all units purchased (K+W)	
II	Total annual cost savings (including labor costs) (H-T-GG)	
JJ	**Payback period** (year) (HH/II)	

The table below compares the cost of using an aqueous microbial sink-top unit and a spray cabinet to solvent units. These costs are based on actual demonstration results at two fleet maintenance facilities.

SOLVENT UNIT VS. MICROBIAL SINK-TOP UNIT

One Solvent Unit		One Microbial Sink-top Unit	
	Annual costs		Annual costs
Leasing, waste Management	$1,908	Purchase price[1]	$266
		Chemicals	$365
Electricity(est.)	$120		
		Filters	$60
Cleaning labor (239 hrs)	$11,950	Electricity(est.)	$360
		Solution disposal[2]	$125
Total Costs	**$13,978**	Cleaning labor (239 hrs)	$11,950
		Total Costs	**$13,126**
Annual Savings:	**$852**		

TWO SOLVENT UNITS VS ONE SPRAY CABINET

Two Solvent Units		One Spray Cabinet	
	Annual costs		Annual costs
Leasing, waste management	$3,816	Purchase price[1]	$776
		Chemicals	$510
Electricity(est.)	$369		
		Solution and sludge disposal[3]	$3,672
Cleaning labor (738 hrs)	$36,900		
		Electricity(est.)	$3,100
Total Costs	**$41,085**	Cleaning Labor (221 hrs)	$11,050
		Total Costs	**$19,108**
Annual Savings:	**$21,977**		

[1]Annualized over a 7 year period a 10 percent interest
[2]Assumes off-site disposal of 25 gallons of waste solution once per year
[3]Assumes off-site disposal of 64 gallons of waste solution 6 times per year

This sheet was developed by the Environmental Protection Agency(EPA) Region 9 pollution prevention program.